

**Addendum 2****PROGRAM REPORTS  
Region 5 Land Disposal Program****Overview**

The Land Disposal Program regulates municipal solid waste (MSW) disposal to landfills, hazardous and nonhazardous liquid and solid industrial waste discharges to surface impoundments and non-MSW landfills, mines and other discharges to land requiring containment in accordance with Title 27 and Chapter 15 of Title 23 of the California Code of Regulations (CCR). Approximately 300 facilities are under waste discharge requirements (WDRs), however, staff in each of the three offices is also involved with numerous sites not under WDRs.

**Regulations**

California's regulation of landfills and other land disposal sites has undergone major changes over the past 30 years. The original 1972 land disposal regulations, Subchapter 15 of Title 23, CCR, provided a framework for classifying wastes and waste disposal sites and relied on natural site conditions to contain waste. In 1984, after an extensive public review process, SWRCB significantly revised the Subchapter 15 regulations.

The 1984 Subchapter 15 regulations employed a three-prong approach including performance standards, minimum prescriptive standards, and monitoring to protect water quality. The regulations required a thorough evaluation of site conditions and required liner systems where site conditions did not protect water quality. New and existing sites were required to implement groundwater monitoring programs to assess compliance with the performance standards set forth in the regulations. The revised Subchapter 15 also required the Regional Boards to update WDRs over a five-year period to incorporate the new regulations and allow a compliance period of up to five years.

In 1991, due to renumbering of Title 23 of CCR, Subchapter 15 was changed to Chapter 15. Later that year, the State Board approved revisions to Chapter 15 that provided new monitoring provisions in Article 5. These revisions included new requirements for monitoring, financial assurances, and corrective actions to be consistent with the federal Resources Conservation and Recovery Act (RCRA).

In late 1991, USEPA promulgated new MSW landfill regulations in RCRA Subtitle D (Part 258, Title 40 of the Code of Federal Regulations). In 1993, SWRCB adopted Resolution No. 93-62, Policy for Regulation of Discharges of Municipal Solid Waste, to implement the federal requirements in California. The Regional Board then adopted Order No. 93-200 amending all WDRs for MSW landfills within Region 5. The Order required landfills to comply with State Board Resolution No. 93-62 and Subtitle D. The Order required landfill owners to build composite liners (low permeability soil overlain by a synthetic geomembrane) for any new landfill or existing landfill expanded beyond its existing footprint. These actions resulted in early closure of some landfills, a trend toward larger, regional landfills, and exporting some municipal waste out of state. California received final approval from USEPA in 1993 to implement our current regulatory program under Subtitle D.

In 1997, the Legislature directed the Integrated Waste Management Board (IWMB) and the State Board to develop a new set of regulations to eliminate overlapping responsibilities at MSW landfills. IWMB regulations were contained in Title 14 at that time. Most of Chapter 15 and Title 14 were consolidated into Title 27 and overlapping responsibilities were eliminated. The new Title 27 regulations did not make any substantive technical changes to the regulations formerly contained in Chapter 15. Hazardous waste regulations implemented by the Regional Board remained in Chapter 15 and are implemented in coordination with the Department of Toxic Substances Control (DTSC) at Class I facilities.

The IWMB is designated under Public Resources Code Section 40508 as the lead state agency for nonhazardous solid waste disposal sites. The IWMB has responsibility for public health protection by regulating hazards from landfill gas migration and daily cover required to control vectors at landfills. The Regional Board remains responsible for water quality protection measures including siting, liner systems, leachate collection systems, storm water controls, groundwater monitoring, and corrective action.

**Terminology**

The Land Disposal Program uses a number of terms to classify wastes and describe waste management units. These terms are defined either in regulation or law. Selected terms are briefly described here.

**Hazardous waste** – The SWRCB regulations rely on the definitions of hazardous waste found in Title 22, CCR. Hazardous waste is characterized by toxicity, ignitability, corrosivity and reactivity as defined by Section 66261.20 of Title 22. DTSC is the lead regulatory agency for Class I sites and the Regional Board ensures water quality protection.

**Designated wastes** – As defined in Water Code, designated wastes are those wastes containing pollutants which could be released at concentrations in excess of applicable water quality objectives or that could reasonably be expected to affect beneficial uses of waters of the state.

**Nonhazardous solid waste** – Defined in Title 27, nonhazardous solid waste generally refers to municipal refuse, but includes all putrescible and nonputrescible solid, semi solid, and liquid wastes, such as industrial wastes, ashes, demolition debris and animal wastes. The key feature of the definition is that these wastes cannot contain soluble pollutants in concentrations that exceed applicable water quality objectives or could cause degradation of water of the state.

**Inert waste** – Also defined in Title 27, inert waste does not contain soluble pollutants at concentrations in excess of applicable water quality objectives and does not contain significant quantities of putrescible or decomposable waste.

**Waste management unit** – Defined in Title 27 as an area of land at which waste is discharged. Landfills, surface impoundments and land treatment units are types of waste management units defined in Title 27.

**Landfill** – A waste management unit at which waste is discharged in or on land for disposal.

**Surface impoundment** – A waste management unit designed to contain liquid wastes.

**Land treatment unit** – A waste management unit at which liquid and solid waste is discharged to land for degradation, transformation, or immobilization within the treatment zone. These units typically do not have liners, but the maximum depth of the treatment zone cannot exceed five feet from the initial soil surface.

Class I units, such as landfills, are permitted to take hazardous wastes. Class II units, including landfills, surface impoundments and land treatment units, are permitted to accept designated wastes. Class III units, limited to landfills, are permitted to accept nonhazardous solid wastes and inert wastes. Unclassified units are only allowed to discharge inert wastes. Municipal solid waste can only be discharged to those landfill units permitted to do so in compliance with Subtitle D.

### **Funding**

The Central Valley Region has the largest land disposal budget of the State and Regional Boards; about 37% of the entire program. Our 2004/2005 budget is \$3.2 million with \$1.8 million allotted to personal services. This budget supports approximately 24 staff of the 27.3 authorized PYs. The budget includes \$1.4 million from the IWMB collected from tipping fees charged to landfill operators based upon tons of waste discharged. These fees support regulatory oversight of MSW landfills. In addition, nearly \$1.8 million is allocated from the State Board from annual permit fees charged to facilities under WDRs. MSW landfills with WDRs pay tipping fees while taking waste, and annual fees when they stop accepting wastes.

### **Resource Distribution**

The following shows the personal services resource distribution to each office for 04/05:

	<b>Sacramento</b>		<b>Fresno</b>		<b>Redding</b>		<b>Region</b>	
<b>131 Fees</b>	\$285,000	32%	\$565,000	62%	\$57,000	6%	\$907,000	100%
<b>139 IWMB</b>	\$378,000	46%	\$333,000	41%	\$102,000	13%	\$813,000	100%
<b>Budget Total</b>	\$693,000	39%	\$898,000	52%	\$159,000	9%	\$1,700,000	100%
<b>PYs</b>	11.3	41%	13.8	51%	2.2	8%	27.3	100%

### **MSW Landfills**

Municipal solid waste landfills are a significant workload for the Land Disposal Program. Region 5 has about 50 active landfills and 80 inactive or closed landfills. Nearly all MSW landfills have reported groundwater impacts from either landfill gas or leachate migration.

In response to our Board's concern regarding water quality protection at MSW landfills, landfill owners and operators are submitting technical reports to demonstrate compliance with Title 27 performance standards for all landfill expansions. This

approach began in 2001 after our Board requested State Board to determine whether prescriptive design requirements for municipal solid waste landfills are capable of meeting Title 27 performance standards. The State Board response, dated 9 November 2000, indicated the Regional Board should require a more stringent design (possibly a double composite liner) where it is determined the minimum prescriptive design (single composite liner) will not meet the performance standard. Staff has received nearly two-dozen demonstrations for review, many of which resulted in revised WDRs. This Board's leading efforts regarding performance standard demonstrations are gaining acceptance by the waste industry and with other Regional Boards. This approach is also being used for certain containment system designs at waste management units other than MSW landfills.

Landfill engineers have used a number of different approaches to demonstrate how their designs meet the regulatory performance standards. The result of the demonstrations has been enhanced designs, more use of secondary containment features and leak detection layers, better construction quality control, and better consideration of landfill gas extraction.

#### **Hazardous Waste and other Non-MSW Facilities**

The Land Disposal Program includes Class I facilities for hazardous waste disposal. In concert with DTSC, the Fresno office is responsible for regulation of two of the State's four active Class I disposal facilities, Clean Harbors Buttonwillow, LLC (Buttonwillow Facility) and Chemical Waste Management, Inc. (Kettleman Hills Facility). The Kettleman Hills facility is now the only site in the state that accepts Class I solid and liquid waste, Class II solid waste, and Class III MSW waste. The facility is preparing to add new MSW and Class I waste management units as well as a bioreactor project.

The Land Disposal Program regulates about 160 facilities that are subject to Title 27 but are not subject to the federal MSW regulations or hazardous waste regulations. These are commonly Class II sites that discharge designated solid and liquid wastes (including salty wastewaters) such as mines, oil-field produced-water disposal sites, and industrial facilities. The industrial facilities include a broad variety of sources such as food processing, energy production, manufacturing, and refining. The Land Disposal Program also regulates greenwaste composting sites.

#### **Priorities**

Priorities in the Land Disposal Program are based on a number of considerations. These include Administration policies, State and Regional Board direction, funding, legal mandates, statutory obligations, priority water quality issues, and public interest. Several years ago, the State Board conducted a Needs Analysis that determined the Central Valley Region needed 67.5 PYs and, like the other Regional Boards, had less than 50% of the resources necessary to do its job. Due to inadequate resources, the hiring freeze, and loss of positions, staff must continually reevaluate priorities.

The Land Disposal Program implements Governor Arnold Schwarzenegger's Action Plan for California's Environment through planning, innovation and enforcement of existing laws. In addition, our management recognizes the importance of the State Board's Strategic Plan as a framework to guide us in allocating resources and establishing priorities. Our entire regulatory effort provides linkage to the Strategic Plan to protect groundwater and surface water and monitoring to evaluate water quality protection efforts.

Staff places a high priority on normal regulatory work which includes updating existing WDRs, writing new WDRs, inspecting sites, reviewing monitoring reports to verify compliance, and reviewing engineering, hydrogeology, design, and construction reports. Enforcement is also a high priority. Staff spent considerable effort on the petition filed by Royal Mountain King Mine, litigation on the Jamestown mine, Walker and Penn Mines and the Board-directed effort to determine compliance with performance standards for all MSW landfill expansions.

Staff has placed a renewed emphasis on financial assurances for reasonable foreseeable releases and increased attention to seismic stability requirements for landfills. The IWMB reviews financial assurance mechanisms for landfills and staff rely on the Department of Water Resources, in some complex cases to assist with seismic review of stability computations made as a part of landfill design.

Due to resource limitations staff is unable to work on hundreds of abandoned mines that are impacting water quality and several hundred oilfield produced water disposal sites.

#### **Consistency Issues**

Staff recognizes that coordination and consistency of program administration and work products for all three offices are important. In order to improve consistency, quality and efficiency, staff holds regular internal program roundtables and participates in quarterly State Board roundtables.

Although each facility must be regulated on a case-by-case basis because site specific conditions vary widely in the region, staff has prepared municipal solid waste and industrial waste boilerplates to assist in the preparation of WDRs and improve

regulatory consistency. In addition, staff has evaluated consistency issues pertaining to evaluation monitoring, water quality protection standards, performance standard appraisal review, point of compliance, low/no waste flow (trickling) landfills, and threat and complexity ratings for assessment of annual fees. Also, staff has coordinated extensively with the Waste Discharge Requirement (Non-15) Program.

Staff also participates in outreach programs, working with special interest groups, industry associations, and the general public to better understand new and existing programs, new regulations, and to interpret the mission of the Board.

### **Work Plan**

Every year the Regional Board prepares a work plan in cooperation with the State Board. The general approach has been to allocate resources across program tasks for a balanced regulatory effort that meets priorities. The focus of our program is primarily preventative in nature, and success can be measured, in part, by the Discharger's compliance with monitoring programs established in WDRs.

After preparation of the 2003/2004 workplan, we faced a number of challenges in meeting the workplan commitments. The Region lost staff and we were unable to fill vacancies due to the hiring freeze. Funding for student assistants was reduced by more than \$33,000. Also, fewer outputs were expected due to unanticipated high priority work that includes response and follow-up to complaints, litigation, and petitions.

The dynamic nature of the program dictates a constant re-evaluation of priorities throughout the year. The following outputs were completed in selected areas of the work plan during 03/04.

	<b>Commitment</b>	<b>Number Completed</b>	<b>Percent Completed</b>
<b>New WDRs</b>	5	4	80%
<b>Revised/Updated WDRs</b>	32	17	53%
<b>Inspections</b>	327	344	105%
<b>Reports Reviewed</b>	700	715	102%
<b>Informal Enforcement</b>	65	78	120%

In addition, staff is committed to other important priority resource intensive projects that do not specifically result in outputs on the State Board Work Plan. These include regulatory efforts at Walker and Penn Mines, response to the Royal Mountain King Mine petition, and litigation concerning Jamestown Mine. Also the offices have provided considerable assistance to the IWMB with respect to the Landfill Facility Compliance Study, conducted by GeoSyntec Consultants, Inc. The purpose of this study is to provide a comprehensive inventory of municipal solid waste landfill performance, conduct an assessment of current regulatory requirements, determine if those requirements are effective in protecting the environment and recommend possible improvements to the regulations.